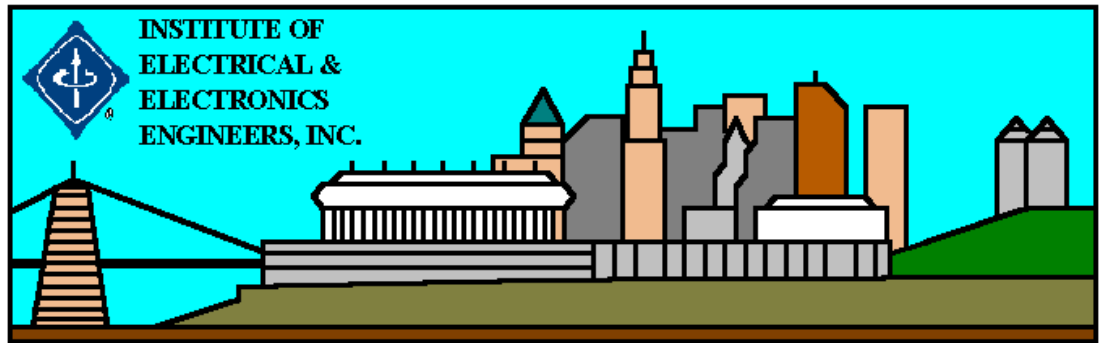


**IEEE
CINCINNATI
SECTION
NEWSLETTER
MARCH 2001**



MARCH MEETING

DSL TECHNOLOGY

JOINT ISA AND IEEE SECTION MEETING

LOCATION: Northern Kentucky Convention Center, Room D

SPEAKER: R. Lance Reid

DATE: Tuesday, March 27

TIME: 6:30 PM

NOTE: No reservations are required. This meeting is being held after the close of the ISA/IEEE Show at the Northern Kentucky Convention Center. Your attendance at the show prior to the meeting is encouraged. A reception for Show attendees will be held on the show floor from 5:00pm to 6:00pm.

Lance Reid, Director of Data & Transport Networks at Cincinnati Bell will speak on a variety of topics related to DSL. His presentation will include the technology behind DSL, a high level comparison of DSL vs. cable modems, use of DSL in local area networks at home, and a discussion of the new wireless LAN equipment.

Mr. Reid has end-to-end responsibility for Cincinnati Bell's transport and data networks including Sonet, ATM, Frame Relay, and DSL infrastructure. The scope of responsibility ranges from vendor selection and long range planning, through short range planning and engineering, and ending with installation.

Some of the output of Lance's team include things like the first use of Sonet to deliver customer circuits. More recently, items include: selecting and deploying Cisco equipment for Zoomtown, the nation's premier ADSL service; completing Cincinnati Bell's conversion to an all-fiber Interoffice Network; and replacing Cincinnati Bell's ATM and Frame Relay networks to support rapidly growing services.

Lance Reid earned his B.S. degree in Electrical Engineering at the University of Kentucky, and his Masters degree in Electrical Engineering at the Stevens Institute of Technology in New Jersey. Aside from his positions at Cincinnati Bell, Lance's career includes positions at Bellcore (now Telcordia). There, as a Member of Bellcore's Technical Staff, he developed Operations requirements and Information Models for Sonet technology.

TO SUBSCRIBE TO THE ELECTRONIC NEWSLETTER

This newsletter is only available via e-mail or the Section's web page at <http://ieee.cincinnati.fuse.net/> with the exception of new Section members (one issue only) or members who have specifically requested a copy be delivered through the U. S. Mail.

If you are a new Section member and would like to get this newsletter electronically, please contact Bob Morrison (Editor) at 513-287-3697 or by e-mail at j.r.morrison@ieee.org. Provide your name and member number. In case there are questions, please include a daytime telephone number as well.

If you would like the "Snail Mail" version, you must contact Bob Morrison via the above means or call the Section's voice mail at 513-629-9380.

CHAIR'S MESSAGE

by Tom Grau, Section Chair

The Executive Committee of the Cincinnati Section of the IEEE is well into its planning cycle for this year and for several years out. In this endeavor, we are dedicated to bringing to you, the IEEE Membership of the Cincinnati Section, programs that will inform you and stimulate you through engineering technology.

Our Mission is to serve the membership of this Section and to support the Societies that our members belong to. Our Vision for our Section is that we enrich our member skills through program presentations of current technologies and issues.

In a Goal-setting session many possible goals for the Section were boarded and from the list, three were chosen. These are the following:

- (A) Support for a successful Region 2 Meeting, scheduled for October in Cincinnati;
- (B) Improve Section meeting attendance; and
- (C) Encourage more active Section involvement with Student Chapters.

While the last two of these objectives are self-explanatory, the first one may need some further detail. As you probably know, Region 2 is comprised of many sections such as Pittsburgh, Cincinnati, Dayton, Columbus, etc. Region 2 meetings are held in different cities during the year. This year, our Section will host the Region 2 meeting in Cincinnati and the Executive Committee would like to make this meeting a success. I will have more information on this meeting later.

Jim Everly, past Section Chair, is currently developing an electronic questionnaire to survey our membership and to provide guidance for future meeting topics and presentations. I sincerely hope that you, our members, will support Jim in this survey which is due to become available soon.

UPCOMING SECTION MEETINGS AND TOPICS

April 26, 2001	Section Meeting - PACE
May 2001	Section Meeting - Harris HDTV Tour
Sept. 2001	Section Meeting - Tour of Kings Island

Topics are tentative at this time. Detailed information about the Section Meetings will be included in that month's newsletter. If you are interested in attending an Executive Committee Meeting, please contact either Ron Harbaugh (513-352-2941, Ron.Harbaugh@CinPD.RCC.ORG) or Jack Beckmeyer (513-353-3834, j.beckmeyer@ieee.org).

NEW MEMBERS

The following individuals are IEEE members who are new to our Section:

SALEH AL-JAZZAR	TIMOTHY J. KALHORN	RAFAEL A. ORTA
BRADLEY T. BARCOM	KENDAL W. KERR	JOHN W. PAQUETTE
WILLIAM L. GERHARDT	SAMUEL J. P. LAUBE	JONG IL PARK
ROBERT L. HARRISON	JOSHUA D. MORRIN	JENNIFER M. RENSING
WILLIAM H. HARTT	KELLI ANN MOWERY	DEV M. RUPAREL
JAMES K. HOGAN	FREDRIC R. NADEAU	SHRENIK M. VORA

We wish to extend our welcome to all of our Section's new members!!!

ATTENTION Retired Engineers and Scientists!
Consider RESC Activities !

The **Retired Engineers and Scientists of Cincinnati – RESC** for short – invite those with **technical backgrounds** who are **retired** and would like to **share good fellowship** while **pursuing interests** in technology, community, history and nostalgia, travel, and business or industry developments.

Activities include monthly luncheon meetings, periodic plant tours, and golf in season.

VIEW THE FULL SCHEDULE AT: <http://home.fuse.net/Engineering/RESC.htm>

Luncheon meetings are held on the third Tuesday of each month from October through May, usually on the lower level of the Unity Center, 1401 McMillan Ave. (via side entrance on Grandview Ave.)

NEXT MEETING

Tuesday, March 20 **Luncheon meeting** at Unity Center - Reservations (\$9.00)
11:30 AM required by March 14.

Program: Digital Still Photography
 Speaker: Dick White, RESC member, retired metallurgical engineer, will describe how digital cameras and accessories allows the typical traveling photographer new convenience and skills, 'including tips and cautions. He will include editing and storing photos with software on laptop or desk computer and some internet resources -- and display outstanding photos!

[illegible]

In the museum and plant you will see the evolution of turbojet engines from the first (1941) engine built in the US producing 1,250 pounds of thrust to the 68,000 pounds of thrust GE4 and assembly of the CF6 used on planes including 747, 767, DC-10 and MD 11. Also the super fuel efficient " Unducted Fan Engine"

AFTER TOUR Drive to Cookers, 11333 Princeton Pk. For Lunch

RESERVATIONS & INFORMATION available by telephoning RESC contacts at either:
(513) 231-7831 or (513) 751-8035

Information also on web at <http://home.fuse.net/Engineering/RESC.htm>

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The Newsletter is now also available on our Web Page at:

<http://ieee.cincinnati.fuse.net/>

If you are interested in placing an ad, or if you have questions, please contact:

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**University of Cincinnati OMI College of Applied Science Students Participate in Bluetooth Wireless
Technology Contest**

The IEEE Student Chapter at the University of Cincinnati's OMI College of Applied Science, Electrical and Computer Engineering Technology Department, is participating in the Second Annual Computer Society International Design Competition. The goal of the International Design Competition is to advance excellence in education by having student teams design and implement computer-based solutions to real-world problems.

This year's competition is focused on using Bluetooth technology to create a Personal Area Network that will showcase the abilities of Bluetooth and be of general benefit to society. For those interested, an overview of

Bluetooth technology is presented in the November 2000 issue of the IEEE Spectrum. The contest is aimed at the undergraduate level student, with teams being composed of three to five undergraduates. Each team is supplied with a development kit consisting of a laptop computer, two Bluetooth transceivers, a USB-PC camera, and a suite of Microsoft software for use in the project. The only hardware components of the kit that must be used are the Bluetooth technology boards.

The project kits will become the property of the University of Cincinnati only if the student group submits a project report by the announced deadline of May 4th, 2001. For the contest, the IEEE student group chose a project in the area of healthcare. More information about the project can be obtained from IEEE Student Chapter President, Mark Goshorn (magoshorn@ieee.org).

THINK YOU AREN'T SENIOR MEMBER MATERIAL?????

In order to be upgraded to Senior Member of IEEE, you need 10 years of professional practice with 5 years of significant performance in one of the following areas:

- A. Substantial engineering, responsibility or achievement
- B. Publication of engineering or scientific papers, books or inventions
- C. Technical direction or management of important scientific or engineering work with evidence of accomplishment
- D. Recognized contributions to the welfare of the scientific or engineering profession
- E. Development or furtherance of important scientific or engineering courses in a "recognized education program"
- F. Contributions equivalent to those of (A) to (E) above in areas such as technical editing, patent prosecution or patent law, provided these contributions serve to advance progress substantially in IEEE designated fields.

Many prospective applicants make the mistake of assuming that "significant performance" requires special awards, patents or other extremely sophisticated technical accomplishments; such is not the case. Substantial job responsibilities such as team leader, task supervisor, engineer in charge of a program or project, engineer or scientist performing research with some measure of success (papers), or faculty developing and teaching courses with research and publications, all are indications of significant performance.

Ten years of professional practice: The A&A Committee evaluating your application will count the years you have been in professional practice. Your educational experience is credited toward that time as follows: 3 years for a baccalaureate degree in an IEEE-designated field; 4 years if you hold baccalaureate and masters degrees; and five years for a doctorate.

If you are interested in upgrading your membership, please contact one of the Executive Committee

Scanning the Past: A History of Electrical Engineers from the Past

Submitted by Dick Reiman, Historian

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FAX in 1941

Raleigh J. Wise and Ivan S. Coggeshall contributed a technical paper on a facsimile system developed by the Western Union Telegraph Company to the May 1941 issue of the Proceedings of the IRE. Before describing the paper, I will say a few words about the authors.

Wise was born in Hickory, North Carolina in 1897 and graduated in electrical engineering from Georgia Tech in 1919. He then joined Western Union and headed a group in the engineering department in New York City that developed a facsimile telegraph system. In November 1935, Western Union began public facsimile service using this system, and the company also provided direct communication between customers equipped with Western Union Deskfax machines beginning in the 1930's.

Coggeshall was born in Newport, Rhode Island in 1896 and worked as a telegraph operator for the Postal Telegraph Cable Company from 1912 to 1917. He joined Western Union as an engineer apprentice in 1917 and remained with the company until his retirement as an Assistant Vice President in 1959. He joined the Institute of Radio Engineers (IRE) in 1926 and served as its President in 1951. He also was active in the American Institute of Electrical Engineers (AIEE) which he joined in 1930 and for which he served as manager of technical operations just prior to the AIEE-IRE merger to form the IEEE in 1962. He was editor of IEEE Electrical Engineering, a management newsletter, from 1966 to 1972.

In their paper, Wise and Coggeshall reported that Western Union was employing facsimile for transmission of approximately 300 000 telegrams per year. The facsimile machine they described used a cylindrical scanning drum driven by a synchronous motor that produced a peripheral or trace speed of 1400 inches per minute. With this speed and an advance perpendicular to the trace of 100 lines per inch, the machine achieved a scan rate of 14 square inches per minute, which they noted was higher than any other facsimile machine in daily use in the United States.

In the facsimile machine a narrow beam of light that was interrupted 2500 times per second by a chopper wheel reflected from the trace point to a photoelectric cell. A second photocell was illuminated by a second lamp, and the combined output from the two photocells fed an amplifier. The amplitude of the 2500 Hz signal depended on the difference in output from the two photocells. The system was calibrated for zero output when scanning blank paper and for maximum output when scanning a black pencil mark. A completed message dropped into a hopper, and scanning of another drum with another telegram could start within five seconds.

A receiving drum was synchronized using impulses from a 60 Hz tuning-fork generator. Recording paper known as teledeltos was coated with an emulsion that produced black marking when a signal current passed through the paper. The teledeltos paper did not require processing and was said not to deteriorate with lengthy exposure to light. The recording paper was supplied in large rolls inscribed with telegraph blanks. A revolving knife was employed to cut off a completed message that was released onto a conveyor belt. Wise and Coggeshall stated that the facsimile system freed the operators from various "keyboard hazards" and had resulted in greater productivity than achieved in older forms of telegraphy. They mentioned recent efforts to facilitate use of facsimile telegraphy by the public by means of an unattended transmitter that could be activated by key or push button.

Facsimile had enjoyed a long history even by 1941. Alexander Bain operated an experimental telegraph facsimile in 1842 using two synchronized pendulums. Giovanni Caselli introduced a commercial facsimile system in France in the 1860's. The Bartlane facsimile system named for Harry G. Bartholomew and Maynard D. McFarlane was developed in Great Britain around 1920 and used digital picture transmission. This system was used to transmit pictures between London and New York by submarine telegraph cable. The Radio Corporation of America developed a radio facsimile system that could provide commercial services between

Europe and the United States by 1926. William G. H. Finch (1897-1990) patented a color facsimile machine in 1938 that could transmit colored documents by telephone or radio.

Business and personal use of telefax has grown dramatically over the past decade. The Japanese have found facsimile to be especially useful since it can transmit material in kanji script as readily as Roman script. Early in 1989 it was reported that more than 2.5 million fax machines were in use in Japan and that Japanese manufacturers were dominant in the field of fax products. The sales of fax machines in the United States quadrupled from 1986 to 1988 and the number in use was about three million by the end of 1989. The global fax market was estimated at about five billion dollars in 1989. A copy of this essay was sent to the PROCEEDINGS in New York City by telefax.

The September 1976 issue of the PROCEEDINGS contained a delightful paper by Ivan S. Coggeshall entitled "Ten Vignettes of an Engineering Institute." He discussed the IEEE, engineering, ethics, what engineers do, and the future. He concluded that "our Institute, still young in spirit while having aims and objectives, has no final goal, Ian fall, anchorage, journey's end, or port of disembarkation." Coggeshall died August 9, 1990, at the age of 93.

*James E. Brittain
School of History, Technology, and Society
Georgia Institute of Technology*

**University of Cincinnati
OMI College of Applied Science
Electrical & Computer Engineering Technology**

The ECET department has need for part-time instructors for both day and evening classes for all areas of electrical and computer engineering technology. These include: circuit analysis, analog and digital electronics, communications, microprocessors, computer systems, computer networks, PLC's and control systems.

Classes are offered on a quarter schedule. Evening classes meet one night per week for 3 hours. Lecture class instructors usually also teach the laboratory class which meets on a second night.

Applicants should have a minimum of bachelor's degree in electrical or computer engineering or engineering technology, or closely related fields, along with industrial experience.

Interested persons should contact: Dennis Farrell
Department Head, ECET
University of Cincinnati
2220 Victory Pkwy
Cincinnati, OH 45206

Phone: 556-6558
Email: farrell@mozart.cas.uc.edu

Employment will be consistent with the university's equal opportunity, non- discrimination guidelines and other employment policies.

2000 IEEE-USA Award Winners

WASHINGTON (February 2, 2001) - IEEE-USA has unveiled its 2000 award winners in recognition of professional, technical and literary contributions to public awareness and understanding of the engineering profession in the United States.

These distinguished awards are administered under the IEEE-USA Awards and Recognition Committee and approved by the IEEE-USA Board of Directors. Recipients' names are followed by their hometown and place of employment.

Professional Awards

ROBERT S. WALLEIGH DISTINGUISHED CONTRIBUTIONS TO ENGINEERING PROFESSIONALISM AWARD

Mike Andrews (Scottsdale, Ariz., Andrews and Associates, LLC.): "For his leadership in many activities involving engineering professionalism, including his roles as IEEE-USA vice president of career activities, member services council chairman and pre-college education chairman."

AWARD FOR DISTINGUISHED PUBLIC SERVICE

U.S. Rep. Vernon Ehlers (R-Mich.): "For his outstanding contributions to the development of national science and education policy as a member of the House Committee on Education and the Workforce and the House Committee on Science in the 105th (1997-98) and 106th (1999-2000) Congress, and for his leadership in Congress in promoting science and technology."

CITATION OF HONOR

Nataraj Nataraj (Dayton, Ohio, deceased): "For his continuous contributions to PACE activities in the Dayton Section and Region 2, including development of the student contest at Sinclair Community College."

Charles Rubenstein (Brooklyn, N.Y., Pratt Institute): "For outstanding leadership of, dedication to, and contributions to IEEE-USA Professional Development programs."

Carl Wick (Dayton, Ohio, Consultant): "For his leadership and contributions to the career development of IEEE members." Robert S. Powers (Plano, Texas, retired): "For his sustained leadership and creative contributions to IEEE-USA's Technology Policy activities, with emphasis on communication and information policy formulation, and for his successful initiatives to strengthen the bonds between IEEE-USA and IEEE's Technical Activities Board."

DIVISIONAL PROFESSIONAL LEADERSHIP AWARD

Tim Grayson (Burke, Va., Darpa Tactical Systems): "For service with distinction as the GOLD member of PDAC and as society PACE coordinator for the AESS."

Ed Wong (Beijing, China, IBM): "For his outstanding service as Chairman of the IEEE-USA PDAC for 1998-99."

Ben Malakooti (Pepper Pike, Ohio, Case Western Reserve University): "For fostering young engineers and developing interests in them for the engineering profession, as a Fellow of IEEE, SME and IIE."

Matthew Bedosky (Richardson, Texas, RCC Consultants): "For his leadership of the Dallas Chapter of the CVT Society since 1994, including increasing membership from 771 to 1961 and earning Chapter of the Year honors."

Sajjad Durrani (Olney, Md., IEEE-USA Executive Fellow, FCC): "For being an unending promoter of IEEE Professional Activities for more than 30 years in his role as local chapter chairman, section chairman and NCAC PACE coordinator."

REGIONAL PROFESSIONAL LEADERSHIP AWARD

Wayne Akerson (Kennewick, Wash., Parsons Infrastructure & Technology Group, Inc.): "For being a driving force in both the Richland Section and PACE."

Don C. Bramlett (Livonia, Mich., Detroit Edison): "For initiatives that have had a significant impact on the Professional Activities Programs in Region 4 and Southeastern Michigan Section."

Sean Haynes (Charlottesville, Va., Litton Marine Systems): "For his continuous determined support to ProDevCon as a whole and the GOLD participation in particular."

Daryl McCall (Springville, Iowa, Kirkwood Community College): "For his contributions as a director for several years of Science Station, a hands-on science museum in Cedar Rapids, Iowa."

Loren Lacy (Tokyo, Japan, Xilinx): "For his outstanding effort and commitment in helping the SPAC Program to grow and to be successful."

PROFESSIONAL ACHIEVEMENT AWARD

James D. Allen (Great Falls, Va., Falcon Systems Engineering Corp.): "For leadership as an officer and organizer of the NCAC Consultants network."

Shelly Born (Plainfield, Ind., PSI Energy, Inc.): "For enthusiastic leadership and contributions with increasing responsibilities in the Central Indiana Section."

Rory A. Cooper (Gibsonia, Pa., University of Pittsburgh): "For contributions to the development of technology to assist disabled persons, specifically the development of standards."

Hal Dendurent (Mt. Vernon, Iowa, Intermec Technologies Corp.): "For outstanding leadership of three Cedar Rapids Section Professional Development Conferences."

William Kelly (Arlington, Va., retired): "For an exceptional job as editor of The Scanner, a joint publication of the Northern Virginia and Washington Sections, and National Capital Area Council."

Russell H. Kinner (Maumee, Ohio, AVCA Corp.): "For effectiveness promoting professional development with the Toledo Section and throughout Region 4."

Fred Kobashikawa (Honolulu, Hi., Hawaiian Electric Company, Inc.): "For leadership since 1996 of the "Teams" high school engineering competition in Hawaii, which has enjoyed multiple victories."

Technical Awards

HARRY DIAMOND MEMORIAL AWARD

Mitra Dutta (Raleigh, N.C., U.S. Army Research Office): "For innovative design, characterization and realization of high performance heterostructure optoelectronic devices, and establishment of major research programs in this field."

ELECTROTECHNOLOGY AWARD

Ron Gilbert (Benton City, Wash., Pacific Northwest National Laboratory): "For his foresight and leadership in RF Tagging technology as technical task-force lead on more than 50 RF tagging projects."

Literary Award

AWARD FOR DISTINGUISHED LITERARY CONTRIBUTIONS FURTHERING PUBLIC UNDERSTANDING OF THE PROFESSION

Jon Katz (Montclair, N.J., Wired, Rolling Stone and Slashdot.org): "For his book, 'Geeks: How Two Lost Boys Rode the Internet out of Idaho.'"

For more information, visit the IEEE-USA Awards and Recognition Web page at <http://www.ieeeusa.org/AWARDS/index.html>, or contact Svetlana Durkovic at s.durkovic@ieee.org. Nominations are being accepted for the 2001 awards. The deadline is Aug. 1, 2001.

Medford (Okla.) Public School Wins First IEEE-USA Best Communications System Award at Future City Competition

WASHINGTON (February 23, 2001) – Medford (Okla.) Public School won the inaugural IEEE-USA Best Communications System Award at the national finals of the Future City Competition on Wednesday. The award, one of 16 special awards presented at the Hyatt Regency Hotel – Capitol Hill, was for the most "efficient and accurate communications system."

Medford advanced to the 21-team national finals by winning the Oklahoma regional title in Oklahoma City on Jan. 20. Team members included students Michelle Jones, 13, Paige Hagerman, 13, and Jordan Dye, 12. Dana McDonald, who teaches 7th and 8th grade math at Medford, served as the teacher sponsor. Her husband, Steve, was the team's engineer mentor.

"It's a nice academic achievement to add to some of the athletic achievements the school has had," Steve McDonald said of Medford, a K-12 school of about 300 students in north central Oklahoma. "We don't often get the opportunity to recognize the smart kids, so I appreciate IEEE-USA and other groups who sponsor awards like this."

IEEE-USA President Dr. Ned Sauthoff and David Pierce, IEEE-USA chair, PACE (Professional Activities) Committee, presented each team member with a plaque. Each student also received a \$100 U.S. Savings Bond.

Medford's communications network was part of their future city, Marzopia, in the middle of Mars in the year 17,945. Communication is accomplished by thinking about what you want to say and having it transmitted from a chip embedded in your brain to one in your hand. There, a Holo-Com device picks up the signal and sends it to the person to whom you are communicating. Both users can look into their palms to view a hologram of the other person.

The wireless system impressed IEEE-USA members Dr. Ananthram Swami, Lowell Smith and Janet Hill, who served as judges Monday afternoon.

"The neat thing was they thought through how they were going to fund it -- through taxes and bonds," Smith said. "It's fiber optic-based and satellite system-based. Individuals would wear devices that would provide holographic images and audio and video information. So, they thought through some things fairly well."

Frank D. Paulo Intermediate School 75, representing New York City, placed second. St. John Lutheran School (Michigan) was third, followed by Blendon Middle School (Ohio) and South Miami Middle School (South Florida).

The Future City Competition, which IEEE-USA introduced to National Engineers Week in 1993, is designed to encourage the future generation of engineers. Seventh and 8th grade students create their own vision of a city of tomorrow, working first on computer and then constructing three-dimensional scale models. About 30,000 students competed this past year.

Chicago regional champion St. Barnabas Catholic School won the overall championship Wednesday and will receive a trip to the U.S. Space Camp in Huntsville, Ala. Each student member received an IBM ThinkPad computer.

'Practical Communication Antennas with Wireless Applications' Self-Study Course Now Available

Piscataway, NJ. (February 26, 2001) - 'Practical Communication Antennas with Wireless Applications', an IEEE self-study course, is now available from the IEEE. Solve your thorniest wireless antenna problems ? without knowing advanced theories and mathematics.

Leo Setian, Ph.D. has developed this practical course for technicians, engineers and managers. They will be guided through installation, maintenance and optimization of wireless antennas. The course introduces all the basic mathematics needed to work with antennas, including complex numbers and phasors.

The course introduces the broad topics of antennas, communications, transmission lines and radiation. By the end of the course students will be able to understand and model all three passive elements in an antenna circuit: resistors, capacitors and inductors.

Walk through each critical element of antenna performance, including:

- * Antenna impedance parameters
- * Bandwidth and transformer-related issues
- * Radiation resistance,
- * Electrical wavelengths
- * Antenna patterns
- * Polarization
- * Wave propagation

The course includes study guide, final exam, and the textbook, Practical Communication Antennas with Wireless Applications, by Dr. Setian published by Prentice Hall. Upon successful completion of the exam, students are eligible to receive eight (8) IEEE Continuing Education Units (CEUs).

Leo Setian is a Professor of Electrical Engineering at John Brown University in Siloam Springs, Arkansas, and a consultant to Galtronics, a leading antenna manufacturing company based in Tiberias, Israel.

To order use code HL5760, IEEE member price: \$380.00; list price: \$455.00. IEEE Customer Service Department, 445 Hoes Lane, PO Box 1331, Piscataway, NJ 08855-1331, USA; e-mail: customer-service@ieee.org; phone: +1 800 678 4333 (USA and Canada), +1 732 981 0060 (worldwide); Web: <http://shop.ieee.org/store>.

'Multimedia Applications Support for Wireless ATM Networks' Self-Study Course Now Available

Piscataway, NJ. (February 27, 2001) - Multimedia Applications Support for Wireless ATM Networks, an IEEE self-study course, is now available from the IEEE. Networks carrying multimedia, voice, data, and video traffic define the modern network architecture. Dr. Anna Hac developed this course to teach the design of high-speed wireless networks supporting multimedia applications by focusing on real-world applications and traffic patterns.

Topics covered include:

- * ATM and Wireless Networks and their Architecture
- * Congestion control and protocols
- * Location and tracking strategies
- * Routing and resource management for multimedia applications
- * Synchronization
- * Multicasting
- * Quality of Service (QoS) for multimedia applications

The course includes a study guide, final examination (in both paper and online formats), and the text: Multimedia Applications Support for Wireless ATM Networks, by Dr. Hac, published by Prentice Hall. Upon successful completion of the exam, students are eligible to receive eight (8) IEEE Continuing Education Units (CEUs).

Anna Hac received the M.S. and Ph.D. degrees in computer science from the Department of Electronics, Warsaw University of Technology, Poland. She is currently a Professor in the Department of Electrical Engineering, University of Hawaii at Manoa, Honolulu, USA. Her research contributions include system and workload modeling, performance analysis, reliability, modeling process synchronization mechanisms for distributed systems, distributed algorithms, congestion control in high-speed networks, reliable software architecture for switching systems, telecommunications and wireless networks, and network management.

To order use code HL5766, IEEE member price: \$420.00; list price: \$495.00. IEEE Customer Service Department, 445 Hoes Lane, PO Box 1331, Piscataway, NJ 08855-1331, USA; e-mail: customer-service@ieee.org; phone: +1 800 678 4333 (USA and Canada), +1 732 981 0060 (worldwide); Web: <http://shop.ieee.org/store>.

For a complete listing of educational products see www.ieee.org/organizations/eab/cathome.htm.

The IEEE Cincinnati Section Executive Committee **Member Names and Phone Numbers**

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